Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Establishing the Digital Opportunity Data Collection	)	WC Docket No. 19-195
	)	
	)	
Modernizing the FCC Form 477 Data Program	)	WC Docket No. 11-10

REPLY COMMENTS OF CENTURYLINK[1]

I. INTRODUCTION AND SUMMARY

CenturyLink provides these comments in response to the Commission's Second Further Notice of Proposed Rulemaking (2nd FNPRM) in the above-referenced matter.[2] CenturyLink is a global technology company with approximately 450,000 route miles of fiber that it uses to deliver hybrid networking, cloud connectivity and security solutions to businesses and consumers around the world. In the United States, CenturyLink provides internet or voice services to approximately 4.8 million consumer subscribers in thirty-seven states. As a provider of broadband services and a recipient of broadband support in the United States, CenturyLink will be subject to the Digital Opportunity Data Collection (DODC) and a beneficiary of its intended uses. CenturyLink supports the joint opening comments of USTelecom, ITTA and

[1] This filing is made on behalf of CenturyLink, Inc's. subsidiary entities that provide broadband service, including CenturyLink Communications, LLC and Level 3 Communications, LLC.

[2] *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, WC Docket Nos. 19-195 and 11-10, Report and Order and Second Further Notice of Proposed Rulemaking, FCC 19-79, (rel. Aug. 6, 2019) (Order or 2nd FNPRM).

WISPA[3], but also highlights certain considerations in the development of this data collection in these reply comments.

First, the Commission should incorporate a broadband serviceable location fabric into the DODC. Laying broadband coverage polygons over a commonly-shared location fabric will enable collection of more accurate information on broadband service availability and the fabric likely can be created in the same timeframe as the development of the polygon coverage reporting framework.

Second, the Commission should streamline its intended polygon reporting by curtailing the specific technologies that require separate polygon submissions and by implementing speed tiers. This should reduce the quantity and variety of polygons that would be submitted and afford easier visibility of broadband coverage across major technology types at similar speeds.

Third, flexibility in the shape of polygons submitted also will be necessary to enable providers to accurately report their broadband coverage. This is particularly important where the coverage must reflect that a provider can offer service at the specified speed using the specified technology for the polygon to *every* location within a polygon. Some fixed wireless providers may limit their broadband availability based on capacity and should be permitted to report their service availability in a manner similar to fixed wireline providers without using propagation maps.

Fourth, providers should be allowed to submit their broadband service availability to business locations confidentially. The Commission's definition of broadband availability for DODC combined with the typical contractual and individualized services provided to business

[3] Joint Comments of USTelecom – The Broadband Association, ITTA – The Voice of America's Broadband Providers and the Wireless Internet Service Providers Association, filed herein (Sept. 23, 2019) (USTelecom *et al*. Comments).

customers creates a situation where most reported business locations will be actual customer locations and competitively-sensitive information could be revealed about those customers and their services. The Commission should recognize this potential harm and allow providers to submit broadband service availability to businesses confidentially.

Finally, providers should be permitted to submit a complete set of updated polygons once every six months. Providers should not be required to submit data more than once every six months and they should be allowed to provide a complete set of updated data similar to the manner in which Form 477 reporting occurs today.

II. THE COMMISSION SHOULD INCORPORATE THE BROADBAND SERVICE LOCATION FABRIC INTO THE DODC.

CenturyLink strongly supports the adoption and continued updating of a "broadband serviceable location tool into the Digital Opportunity Data Collection."[4] The development of a commonly-accepted set of broadband serviceable household and business locations, along with associated geographical information (together, the broadband service location fabric), would make broadband data collection much more accurate, less burdensome to collect, and substantially more useful. Without a common frame of reference, polygon reporting of service availability will not achieve the Commission's goals as USTelecom, ITTA, and WISPA (the Joint Commenters) explained in their joint comments. For example, a signal propagation map is only really useful when people can identify how many households are outside signal coverage and, importantly, where those houses are located so that potential providers can make plans to extend service. In addition, a commonly-accepted set of serviceable locations would substantially reduce compliance burdens for the Commission, USAC, and providers alike.

[4] *See 2nd* FNPRM, ¶ 101.

CenturyLink also agrees with the Joint Commenters that developing and using a broadband fabric can be accomplished relatively quickly and cost-effectively. Such foundational maps were developed for Missouri and Virginia in a matter of a few months, and the time and money needed to produce additional states is smaller as a result of the experience and mapping infrastructure that were created in the process. Indeed, it appears likely, if not probable, that a working broadband fabric could be completed within the same time frame needed to develop the rules and parameters for filing network coverage polygons for the DODC.

III. THE COMMISSION SHOULD STREAMLINE ITS INTENDED POLYGON REPORTING.

The Commission has summarized the planned DODC filing requirement as follows:

> We require all fixed providers[] to submit broadband coverage polygons depicting the areas where they actually have broadband-capable networks and make fixed broadband service available to end-user locations. The filings must reflect the maximum download and upload speeds actually made available in each area, the technology used to provide the service, and a differentiation between residential-only, business-only, or residential-and-business broadband services.[] Fixed providers in the new collection must submit a broadband coverage polygon for each combination of download speed, upload speed, and technology. Where fixed providers offer different maximum speeds to residential and business customers, even if using the same network facilities, they must file separate polygons. Where the offered speed varies by location or distance from network facilities, fixed providers must submit separate polygons to reflect those differing maximum offered speeds.[5]

As described, this approach may require a voluminous quantity of polygons to be submitted by providers. Every distinct combination of technology and speed will require additional resources, add complexity, and need verification. The intake of reported polygons in and of itself will be a huge undertaking for the Commission. For every set of reported polygons, a spatial analysis must to be done to determine overlap. (*x* Carriers * *y* Entities * *z* Speed Tiers * *a* Number of

[5] Order, ¶ 12 (footnotes omitted).

Technologies * *b* States = Number of Analysis.) Another way to think about the complexity is to consider a Venn diagram as more and more sets (circles) are added to the analysis. In practice, it will be hard to manage, much less visualize, the data with hundreds, or even thousands of service combinations, many of them with slightly varying contours. In addition, the resulting complexity will not add to understanding broadband coverage but, rather, may cloud the issue by creating large numbers of small variations in available coverage.

Thus, the Commission should consider streamlining the categories that will trigger separate polygon reporting. First, the Commission should consolidate the technology categories to simplify the submission process. The Commission should consider having just the few broad technology categories of wireline, fixed wireless, mobile wireless and satellite to obtain basic technology information while minimizing reporting burdens. If, however, the Commission views that it needs additional technology detail, it should not retain the level of detail currently required on the Form 477. It should at least eliminate reporting the specific wireline technologies such as ADSL2, VDSL, DOCSIS 3.0, etc. What is the benefit for these polygon submissions in knowing that one location is served by ADSL2 and another is VDSL, yet both have similar maximum speeds available? The Commission should at least eliminate these specific technologies and have providers submit polygons for technology categories of "copper cable", "coaxial cable" and "fiber" instead.

Second, the Commission should use speed tiers to streamline and standardize broadband speed reporting. The Commission should select the fewest tiers needed to accomplish its DODC objectives. Using speed tiers should reduce the number of discreet polygons submitted and should allow easier comparisons of broadband availability from the submitted data.

IV. THE COMMISSION SHOULD AFFORD SUFFICIENT FLEXIBILITY IN THE SHAPES OF POLYGONS THAT MAY BE SUBMITTED.

The Commission has asked how it should ensure that fixed providers can serve each location within a polygon.[6] The Commission can do so by affording flexibility in the types of polygons that are used. Depending on how a provider has deployed broadband service, very different polygons may be needed to accurately depict where broadband is available.[7] This is especially true given the Commission's intended definition of broadband availability in conjunction with incomplete information on where every broadband-serviceable location is, particularly in rural areas. The Commission is defining broadband as available to a location if there is a current broadband connection or if the provider can provide a broadband connection within ten business days of a request for service.[8] And, when reporting where they have broadband available, a provider must use polygons that reflect that the provider can provide service to *every* location within the polygon. To do this well, a provider may need to have unusually shaped polygons to reasonably reflect the areas in which it has broadband available to every location within it. Polygons might take the shape of a string of pearls, an arterial network, or a slice of swiss cheese. Given its definition of broadband availability and the reporting obligation, the Commission must allow providers to use the shapes that reflect accurate reporting of their broadband availability.

This applies equally to reporting by fixed wireless broadband providers. Many fixed wireless broadband providers may choose to use polygons based on propagation maps. The

---

[6] 2nd FNPRM, ¶ 79.

[7] Verizon has similarly advocated that the Commission "not impose a one-size-fits-all prescriptive rule for creating broadband coverage polygons." Comments of Verizon, filed herein (Sept. 23, 2019), p. 3.

[8] Order, ¶ 13.

propagation maps reflect their anticipated coverage of an area within a certain range of an antenna such that the provider could enable fixed wireless broadband service to any location in that range. Other fixed wireless providers, however, particularly those using unlicensed spectrum, could choose to determine their broadband availability with recognition of spectrum capacity considerations. They could choose to limit their fixed wireless broadband availability to specific locations and thus might choose to report each selected location as a single polygon. The Commission should not preclude this approach. Fixed wireless providers should not be required to file propagation maps. Propagation maps assume coverage limitations, but do not take into account spectrum capacity limitations. Fixed wireless providers should be permitted to report broadband availability in a manner similar to fixed wireline providers if they wish to do so. To the extent that fixed wireless providers submit polygons based on propagation maps, CenturyLink agrees with AT&T's assertion that propagation maps submitted should be accompanied by a publicly viewable set of parameters used to create the map.[9]

V. PROVIDERS SHOULD BE PERMITTED TO SUBMIT BROADBAND SERVICE AVAILABILITY TO BUSINESS LOCATIONS CONFIDENTIALLY

With respect to business-only broadband availability reporting – providers should be permitted to report this information confidentially. Enterprise business services are typically provided via contract and on an individual case basis. In turn, broadband service typically will not be available within ten business days of a request for service, and almost all, if not all, business locations within a business-only broadband polygon will be actual customer locations. As Incompas has noted in its Petition for Reconsideration, the polygon submissions have the potential to reveal information about a company's business customers that is competitively-sensitive, confidential information such as the customer's identity and the speeds offered to the

[9] Comments of AT&T, filed herein (Sept. 23, 2019), pp. 3-4.

customer.[10] CenturyLink agrees that this is a legitimate concern and should be addressed. Unlike Incompas, however, CenturyLink does not see this potential situation as the basis for excusing some *providers* from participating in the DODC. Instead, all providers should either be excused from providing this type of information or the Commission should recognize that providers should be permitted to file this information confidentially. In addition, the Commission should recognize that wholesale providers generally do not possess sufficient information (such as available speeds) to submit the kinds of data proposed for the DODC.

VI. PROVIDERS SHOULD BE PERMITTED TO SUBMIT A COMPLETE SET OF UPDATED POLYGONS EVERY SIX MONTHS

The Commission has described that providers will be required to submit initial broadband availability polygons, and then "[f]ixed providers also must submit updates within six months of completing new broadband deployments; making changes to (including upgrading or discontinuing) existing offerings[]; or otherwise acquiring new, or selling existing, broadband-capable network facilities that affect the data submitted on their Digital Opportunity Data Collection filings."[11] First, as USTelecom, ITTA, and WISPA have advocated, the Commission should simplify reporting burdens and have providers update their data once every six months as they already do in submitting Form 477 data.[12] Second, the Commission should clarify that providers may update previously submitted polygons by submitting a complete set of updated polygons to replace the prior submission.[13] Trying to make incremental changes to previously submitted polygons can be much more burdensome than submitting a full set of updated data.

[10] Petition for Reconsideration of Incompas, filed herein (Sept. 23, 2019).

[11] Order, ¶ 16.

[12] USTelecom *et al*. Comments, pp. 19-20.

[13] *See* USTelecom *et al*. Comments, pp. 19-20.

This is especially the case for large providers with many polygons. And, this would be the same approach as for current Form 477 reporting.

VII. CONCLUSION

The Commission has initiated the DODC to improve the quality of information on broadband service availability throughout the country and seeks additional input on how to implement this collection effectively while minimizing the associated reporting burdens. CenturyLink recommends that each of the approaches addressed above – incorporating the broadband service location fabric into the collection, streamlining polygon submissions by limiting technology categories and using speed tiers, affording flexibility in polygon shaping, allowing confidential submission of broadband service availability to business locations, and permitting semi-annual submissions of a complete set of updated polygons – will help reduce reporting burdens while effectively furthering the Commission's objectives for this collection.

Respectfully submitted,

CENTURYLINK

By: */s/ Tiffany West Smink*

Jeffrey S. Lanning
1099 New York Avenue, N.W.
Suite 250
Washington, DC 20001
202-429-3113
Jeffrey.S.Lanning@CenturyLink.com

Tiffany West Smink
931 14th St., 12th Floor
Denver, CO 80202
303-992-2506
Tiffany.Smink@CenturyLink.com

Its Attorney

October 7, 2019